LINCOLN INTERNATIONAL

Q4 2022

LSDI

LINCOLN SENIOR DEBT INDEX

INTRODUCING:

The Lincoln Senior Debt Index

Lincoln International is pleased to release the quarterly Lincoln Senior Debt Index (LSDI). The LSDI represents years of research and analysis of data and was developed by professionals from Lincoln's Valuations & Opinions Group in collaboration with Professor Pietro Veronesi of The University of Chicago Booth School of Business.

Rising interest rates combined with declining prices in the direct lending and broadly syndicated loan (BSL) market have taken their toll. Returns for the year ending December 31, 2022 were significantly below average at 3.0% for the LSDI and (0.6%) for the BSL market. Yields for the LSDI were 11.6% as of December 31, 2022, the highest since its inception in 2016. Spreads were 7.5%, the highest since September 30, 2020. The fair value of the LSDI as of December 31, 2022, was 96.3, the lowest since June 30, 2020.

The LSDI provides insight into the direct lending market as it is a fair value index consisting of four components:

1. Total return (income return plus capital gain return);
2. Price (i.e., fair value);
3. Spread; and,
4. Yield to maturity.

Each of the four components are then categorized into three types of senior loans:

1. All senior loans – consisting of first lien, unitranche, and second lien loans;
2. Senior loans consisting of first lien and unitranche loans; and,
3. Second lien loans.

In addition, we provide additional descriptive statistics including: (a) loan-to-value; (b) the impact of interest rate and credit changes on total return; (c) the results of stress testing spread changes in the current and subsequent quarters; and (d) default rates.

The U.S. non-investment grade corporate loan market has two segments: the BSL market, which attracts larger companies (i.e., as an approximation companies with EBITDA greater than $100 million) and direct lending market (i.e., companies less than $100 million of EBITDA). While correlated, there are subtle but significant differences between the two markets. Both markets primarily provide floating rate loans; however, divergences exist in terms of market liquidity, company size and credit facility size. Given the greater liquidity in the BSL market, pricing and terms are a function of technical market and competitive factors, whereas the more illiquid direct lending market has a stronger orientation to assessing company fundamentals.

In contrast to the Morningstar LSTA U.S. Leveraged Loan 100 Index which is comprised of companies borrowing in the BSL market, the constituents in the LSDI are virtually all companies borrowing in the direct lending market.

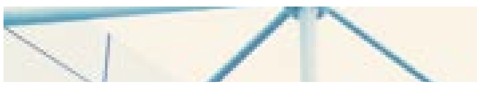
The direct lending market is a significant source of capital to private equity backed middle market companies. The LSDI benefits market participants by providing information to facilitate a greater understanding of the attributes of this important source of capital to the private sector.

How We Obtain the Information

On a quarterly basis, Lincoln values over 4,500 private companies primarily owned by over 125 alternative investment funds and lenders to funds. Most of these companies are levered via borrowings from the direct lending market. A significant percentage of the LSDI constituents are based upon valuations of loans provided for non-public business development companies and other private investment vehicles and, therefore, not disclosed in public filings.

For many of the private companies valued quarterly, Lincoln advises on the fair value of at least one senior debt security in the capital structure. All valuations conform with GAAP and fair value principles and have been reviewed by fund management, fund boards, limited partners and auditors.

Additional information can be found in our methodology discussion (below) and on our website.



96.3

Average Fair Value of Loans in the Index as of Q4 2022

LSDI – KEY OBSERVATIONS – ALL LOANS – THIRD QUARTER 2022

- The LSDI returned 0.9% for the fourth quarter. This represented the one of the lowest quarterly returns since the inception of the LSDI which began in Q4 2014.
  - Returns consist of two components: (a) interest income; and, (b) capital gains or losses. While income returns were positive due to increasing interest rates and yield, the return from capital gains were negative in the third quarter. The quarterly return of 0.9% was exclusively due to rising interest rates while returns associated with capital gains were 0.0%.
- Direct lending loans have yielded on average a 4.0% positive yield premium as compared to yields for loans within the Morningstar LSTA U.S. Leveraged Loan 100 Index. However, for the quarter ending December 31, 2022 the two markets have experienced yield compression as the LSDI yielded only 2.5% more the Morningstar LSTA U.S. Leveraged Loan 100 Index.
- Prices in the BSL market increased $1.00 to 92.9 while the LSDI declined $(0.52) for the quarter ending December 31, 2022 to 96.3.
  - However, for the year ending December 31, 2022 the price decline for the LSDI was $(2.40), approximately half of the BSL decline of $(5.72).
- The LSDI closed out the quarter ending December 31, 2022 at a fair value of 96.3 from 96.8 as of September 30, 2022.

RESULTS:
Total Returns

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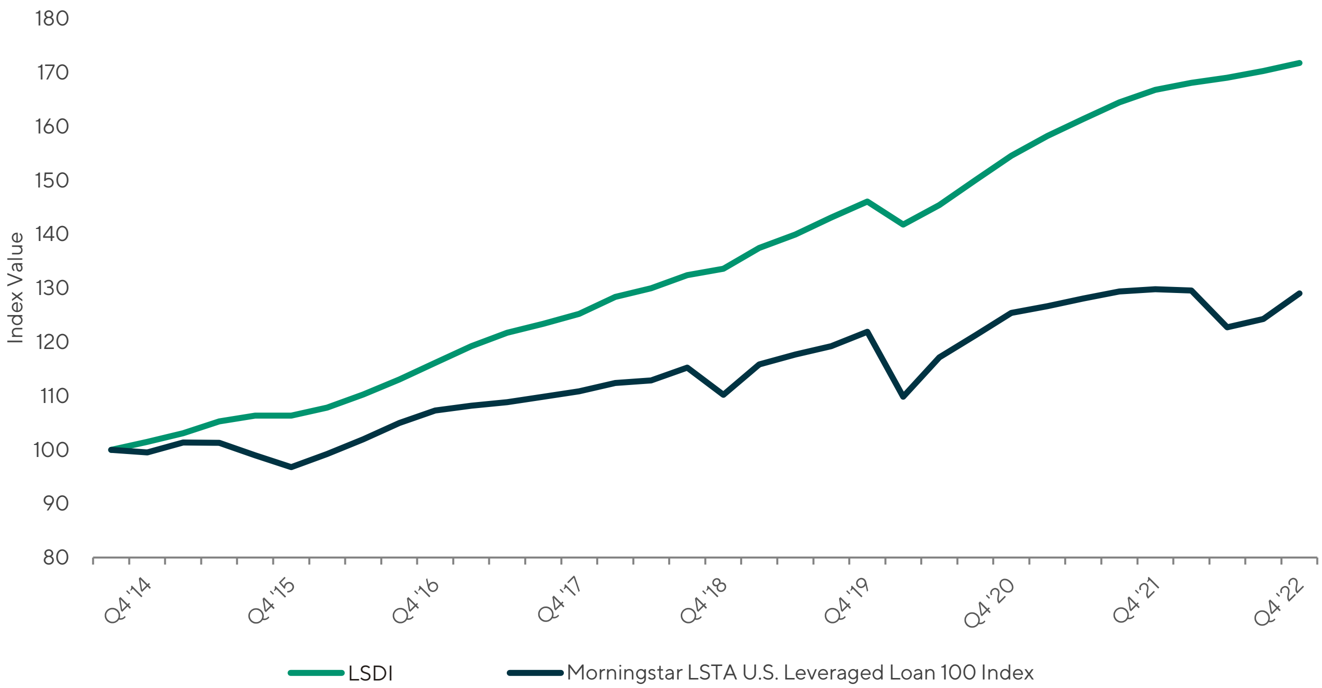
Comparison of Total Return – LSDI (All Loans) to Morningstar LSTA U.S. Leveraged Loan 100 Index



Observations:

- Investment return is generated from two sources: (1) capital gains and losses; and, (2) income return. In the leverage lending asset class, income returns dominate capital gains or losses, resulting in a positive quarterly total return.
- Since the inception of the LSDI, both the Morningstar LSTA U.S. Leverage Loan 100 Index, which measures the performance of the BSL market, and the direct lending market have experienced an increase in total return. Quarterly returns in the BSL market were 3.8% versus the LSDI's quarterly returns of 0.9%. For the quarter ending December 31, 2022, the LSDI experienced a decline in price whereas the BSL market experienced an increase in price. As a result, the BSL market experienced higher quarterly returns.
- Given the likelihood of rising interest rates and the negative impact on value, we expect returns to remain positive, but lower than historical periods during quarters where interest rates were declining.

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RESULTS:
Total Returns (cont.)

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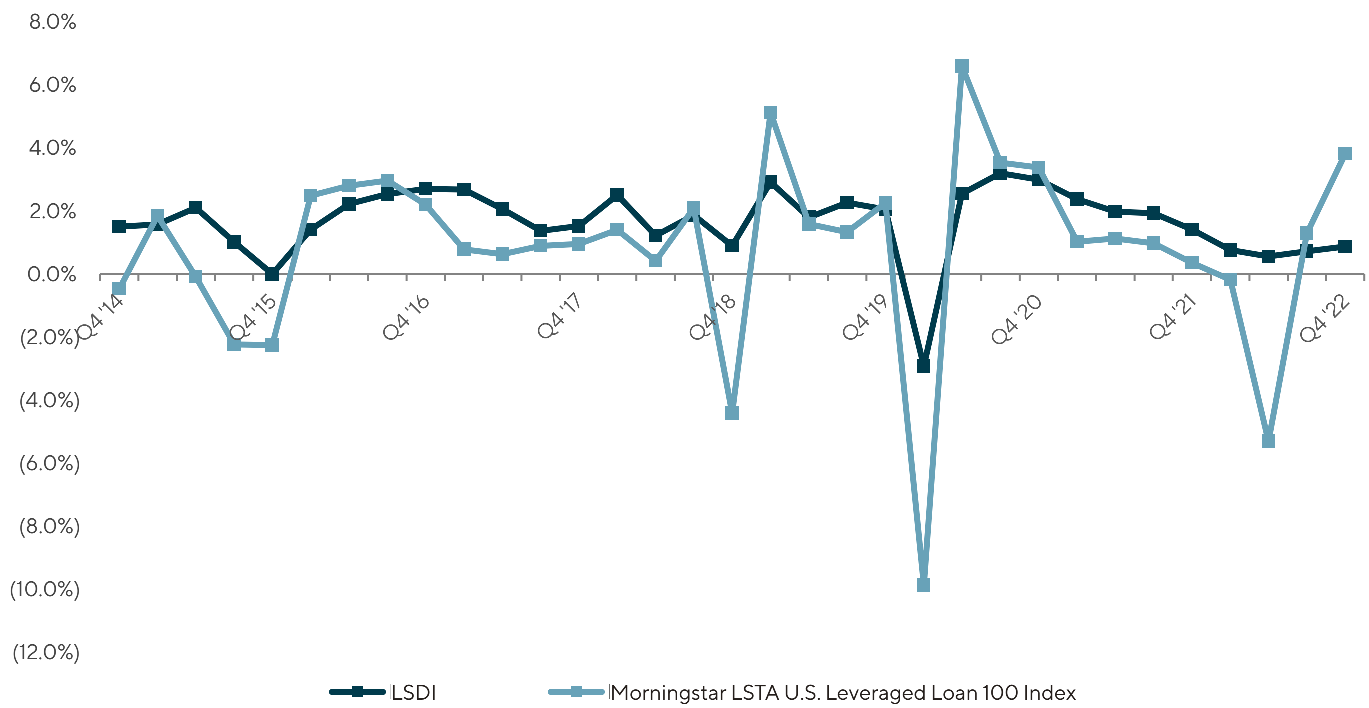
Correlation and Comparison of Quarterly Returns – LSDI (All Loans) to BSL Market



Observations:

- While the correlation between the LSDI and Morningstar LSTA 100 Investment is high at approximately 81%:
  - the LSDI is significantly less volatile; while,
  - generating higher returns.
- Investments in the direct lending market experience higher returns and lower volatility than the BSL market.
- The direct lending market experiences negative returns much less frequently than the BSL market, given its higher yields.
  - Since the inception of the LSDI in Q3 2014 through Q4 2022, only Q1 2020 reported a negative quarterly return whereas the BSL market has experienced eight quarters of negative returns.

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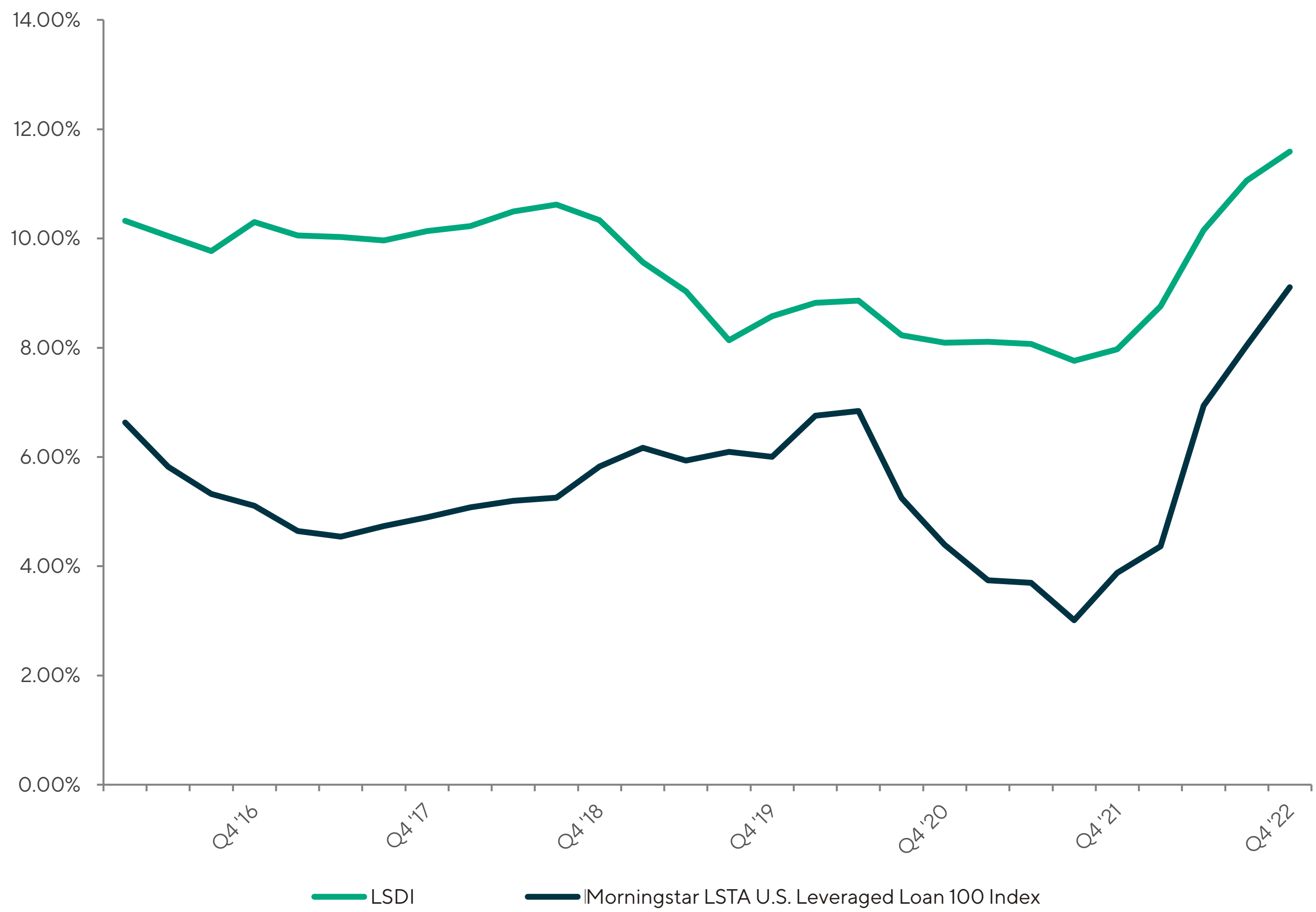
Yields

Comparison of Yields – LSDI (All Loans) to BSL Market



Observations:

- Since inception of the index, the average yield of the LSDI has been approximately 9.5%.
- Due to rising interest rates, the yield of the LSDI was 11.6% in the fourth quarter of 2022 a significant increase from 8.0% as of the fourth quarter of 2021.
- The LSDI yield of 11.6% was the highest yield since inception of the index.
- Over time, loans in the direct lending market yield approximately 4.0% to 5.0% more than BSLs.

RESULTS:

Decomposing Yields in the Direct Lending Market – LIBOR Floors and Spreads

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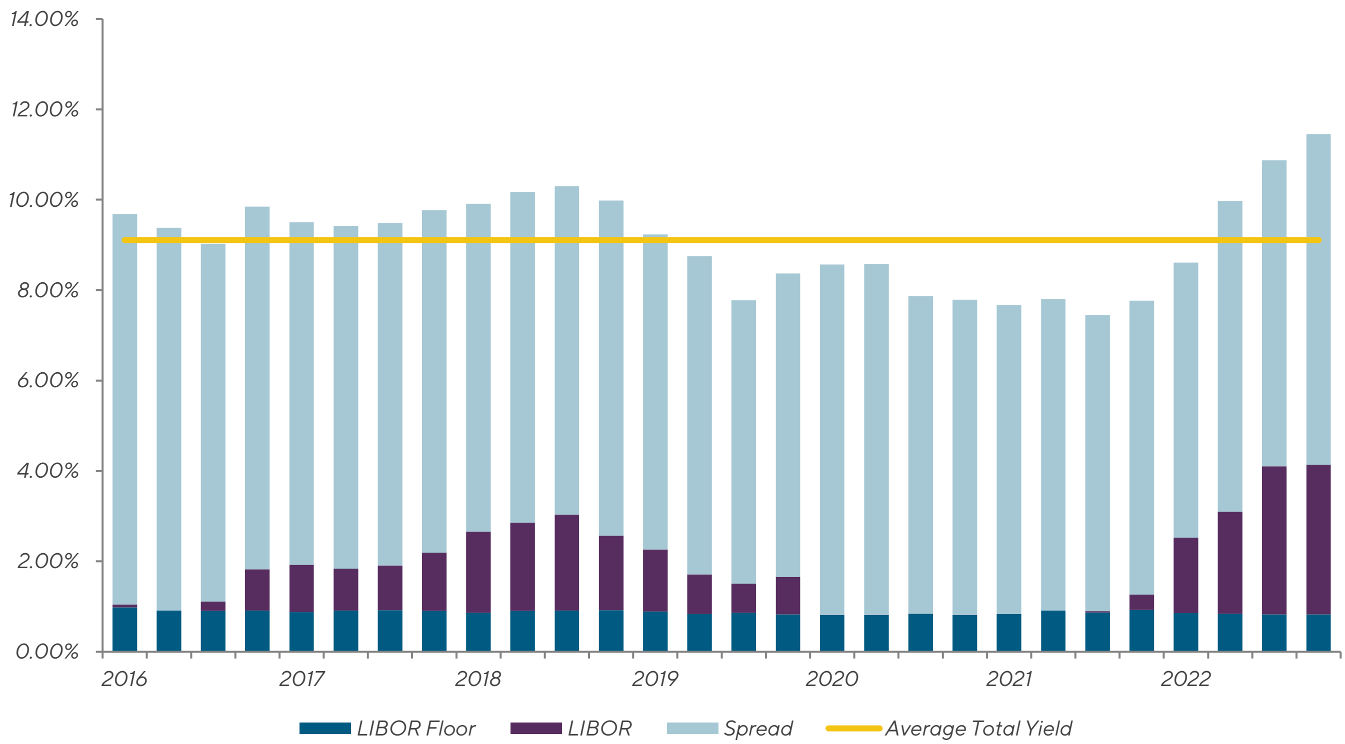
Decomposing Yield – LIBOR, LIBOR Floors and Spreads



Note: LIBOR Floor reflects fair value weighted average for each period while LIBOR above reflects the extent to which LIBOR is above the floor

Observations:

- The average yield of the LSDI since inception has been approximately 9.5%.
- From 2016 until the second quarter of 2022, yields in the direct lending market had remained in a band between 8.0% and 10.0%. However, given the significant increases in LIBOR / SOFR the LSDI yield was 11.6% for the quarter ending December 31, 2022, the highest since inception.
- In the direct lending market, the change in spreads has a greater impact on the fair value of a loan versus changes in LIBOR / SOFR. As direct lending loans are based on a floating rate, LIBOR or SOFR, from a valuation point of view, the loan's discounted cash flow model contains LIBOR or SOFR in the numerator and denominator, thus canceling each other out. However, the numerator is LIBOR or SOFR plus the contractual spread, whereas the denominator is LIBOR or SOFR plus the market required spread – the fair value spread. Therefore, it is the change in the denominator or credit spread that positively or negatively impacts fair value.

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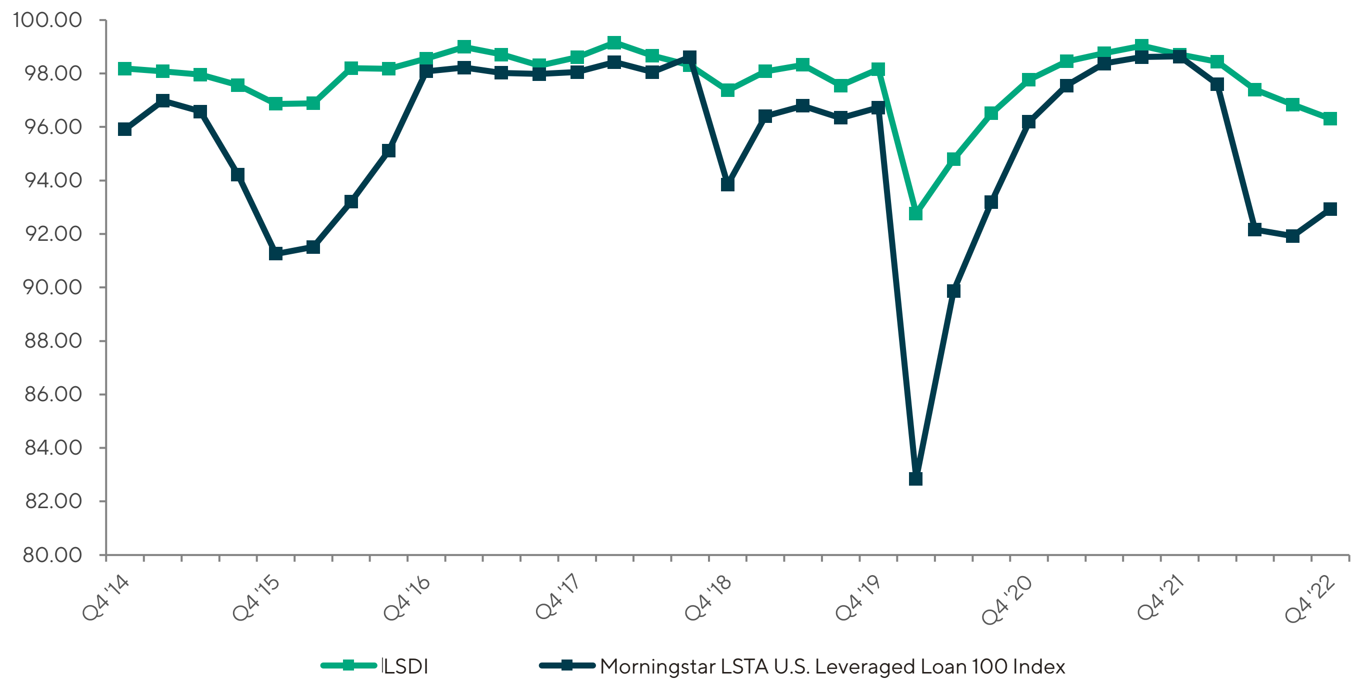
Fair Value – Price – Trends

Fair Value – LSDI (All Loans) Compared to the S&P / LSTA U.S. Leveraged Loan Index



Note: Price based on fair value of the Lincoln Senior Debt Index and average bid of the Morningstar LSTA U.S. Leveraged Loan Index

Observations:

- The LSDI was 96.3 as of December 31, 2022 versus 96.8 as of September 30, 2022.
- The price of 96.3 is the lowest price since the peak COVID-19 impacted quarters of 2020. Over time, prices, on a fair value basis, have generally ranged between 97.5 to 99.0.
- There are several reasons for this phenomenon whereby loans in the direct lending market do not experience the same price volatility as observed in the BSL market:
  - Loans in the direct lending market trade much less frequently than loans in the BSL market.
  - Investors in the BSL market have a greater ability to liquidate their investment should they decide to exit, as trading is a viable option. In contrast, investments in direct lending funds are structured whereby investor redemptions are limited. Therefore, capital flows are not as volatile as the BSL market.

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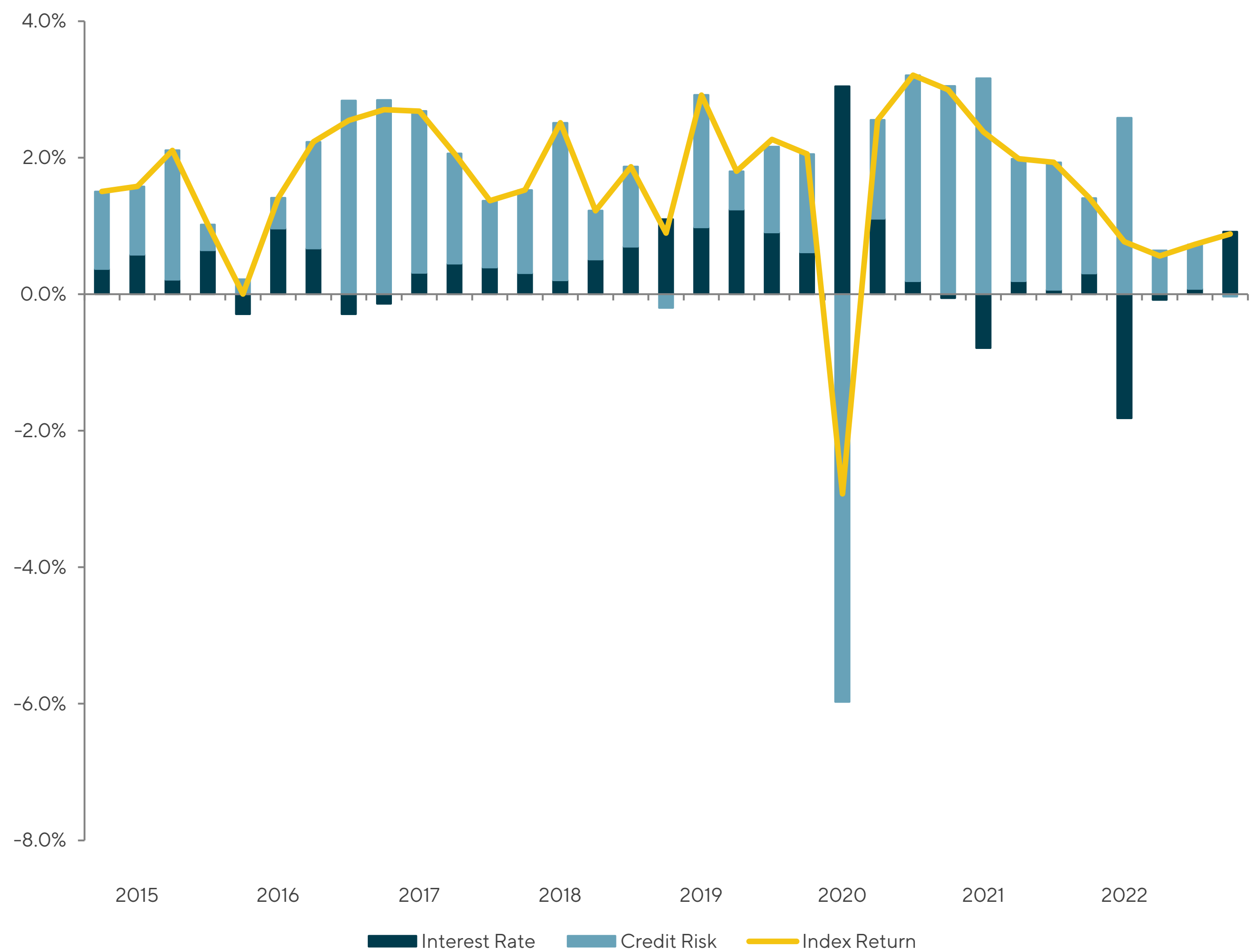
RESULTS:

Bifurcation of the Impact on Total Return Due to Credit Risk and Interest Rate Risk

Decomposition of Index Returns: Interest Rate versus Credit Risk

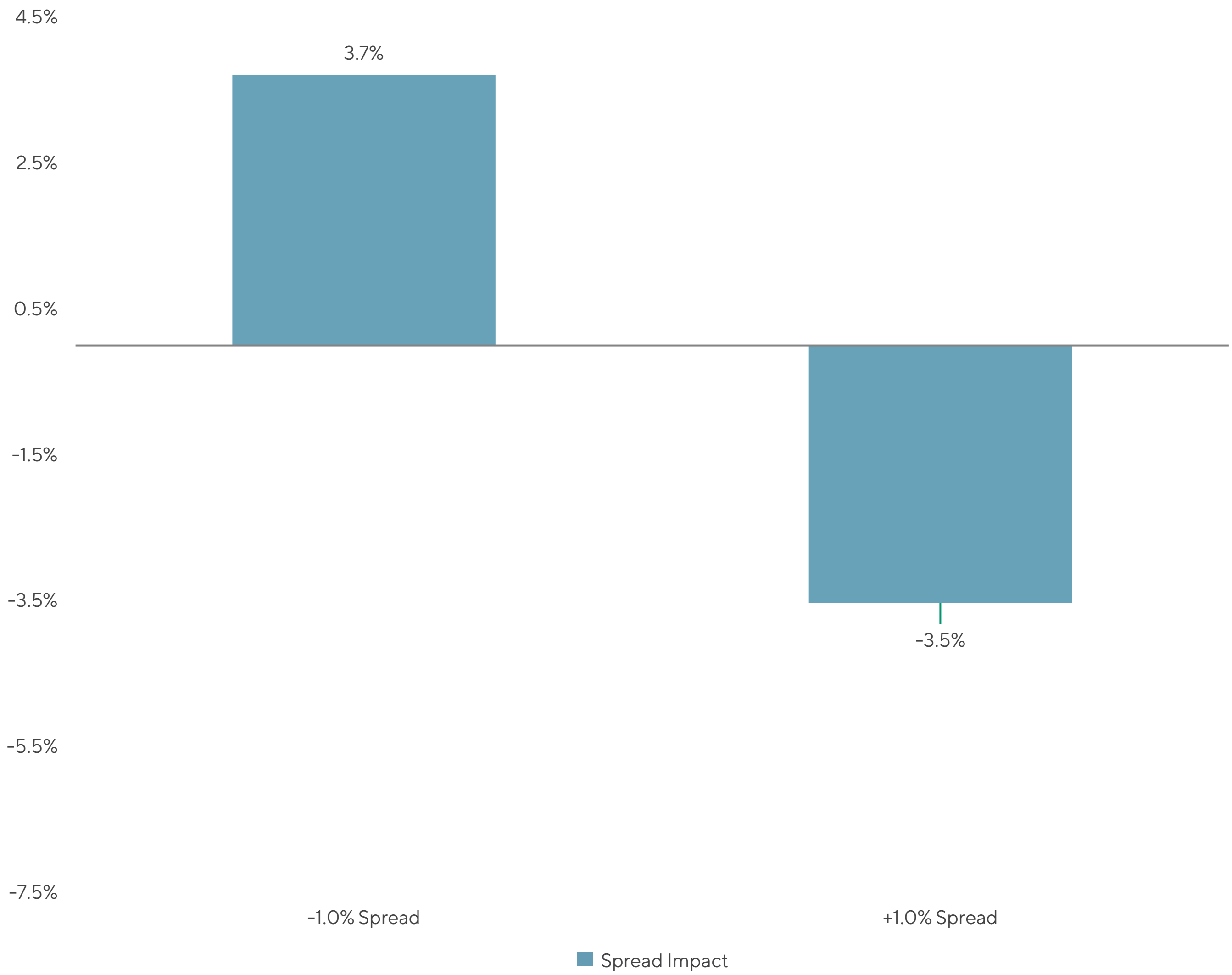


Observations:

- The LSDI returned 0.9% for the fourth quarter, an increase of 20 basis points from the third quarter. This represented the fourth lowest return since the inception of the LSDI which began in Q4 2014.
- Decomposing the quarterly return of 0.9%, all of the return is due to higher interest rates while the impact from changes in credit risk was 0.0%.

RESULTS:
Spread Sensitivity

Q4 2022 LSDI Spread Sensitivity

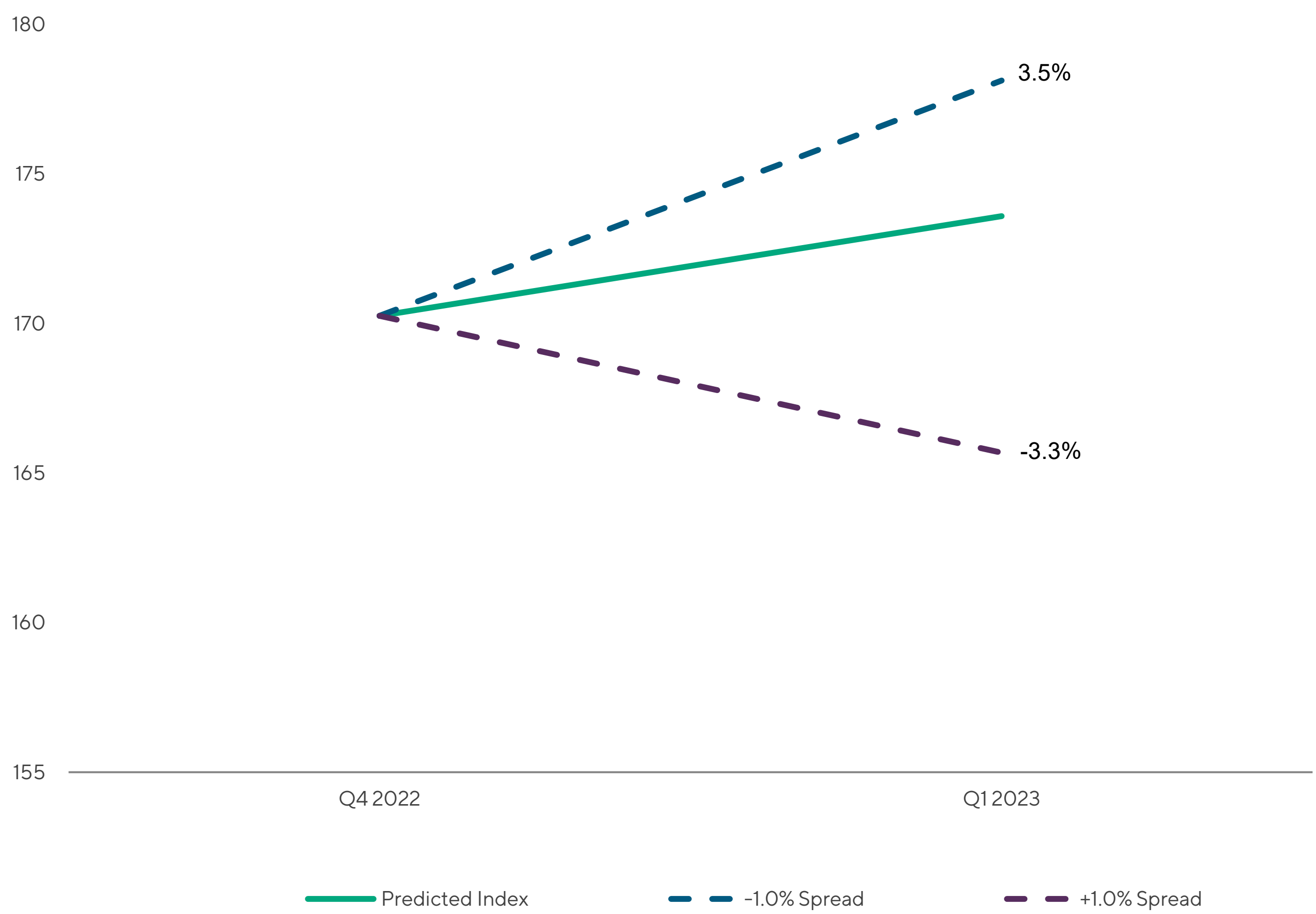


Observations:

- Measuring the immediate impact on total returns, as of December 31, 2022, a 1.0% increase in spreads would decrease the value of the LSDI by 3.5%. Conversely, the impact from a 1.0% decline in spreads would have increased the LSDI by 3.7%.

Spread Sensitivity (cont.)

LSDI Forecasted Spread Sensitivity



Observations:

- Measuring the impact on predicted total returns as of the next quarter, from December 31, 2022 to March 30, 2023, a 1.0% increase in spreads would decrease the predicted value of the LSDI by 3.3%. Conversely, the predicted impact from a 1.0% decrease in spreads would be an increase of 3.5%.

RESULTS:
Default Rates

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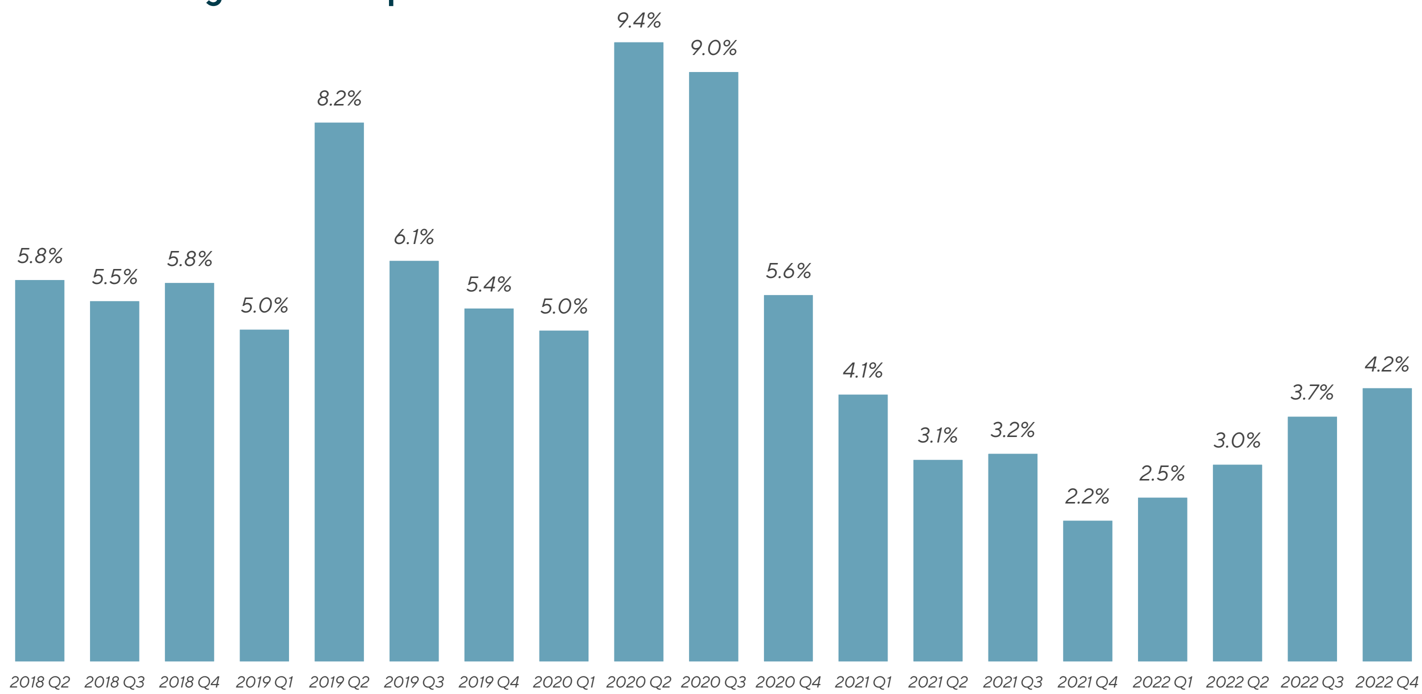
Direct Lending Default Experience



Note: Defaults defined as loan covenant defaults (not monetary defaults)

Observations:

- While default rates increased in Q4 2022 to 4.2% they remain below the average from 2018 of 5.1%.

SUMMARY:
Q4 2022 Lincoln Senior Debt Index

- From 2014 through December 31, 2022, a portfolio of direct lending loans has yielded higher returns and lower volatility relative to BSLs.
- The LSDI provides market participants many unique valuation insights into the fair value of direct lending loans and represents a significant enhancement to the information available within an opaque market.

Source of Data and Sample Size

On a quarterly basis, Lincoln determines the enterprise fair value of over 4,500 portfolio companies for approximately 125 private equity sponsors and lenders. These portfolio companies report quarterly financial results to the sponsor (i.e., private equity group) or lender. Lincoln obtains company and loan level information to create the LSDI.

All information is prepared in accordance with the fair value measurement principles of generally accepted accounting principles. Finally, each valuation is then vetted by auditors, company management, boards of directors and regulators.

Additional information about the methodology of the LSDI can be found at: **www.lincolninternational.com/perspectives/an-overview-of-the-lincoln-senior-debt-index**

Academic Advisor

Professor Pietro Veronesi is the Chicago Board of Trade Professor of Finance at the University of Chicago, Booth School of Business. He is also a research associate of the National Bureau of Economic Research and a research fellow of the Center for Economic and Policy Research.

Professor Veronesi's research has appeared in numerous publications, including the *Journal of Political Economy American Economic Review, Quarterly Journal of Economics, Journal of Finance, Journal of Financial Economics* and *Review of Financial Studies*. He is the recipient of several awards, including the 2015 AQR Insight award, the 2012 and 2003 Smith Breeden prizes from the Journal of Finance; the 2008 WFA award; the 2006 Barclays Global Investors Prize from the EFA; the 2006 Fama / DFA prizes from the *Journal of Financial Economics* and the 1999 Barclays Global Investors / Michael Brennan First Prize from the Review of Financial Studies. Professor Veronesi teaches both masters and Ph.D.-level courses. He is the recipient of the 2009 McKinsey Award for Excellence in Teaching.

His undergraduate work was in economics at Bocconi University where he received a laurea magna cum laude with honor in 1992. He earned a master's degree with distinction in 1993 from the London School of Economics. He joined the Chicago Booth faculty upon obtaining his Ph.D. in Economics from Harvard University in 1997.

ABOUT LINCOLN INTERNATIONAL

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Lincoln's Valuations & Opinions Group is a leading independent valuation advisor to managers of illiquid assets and lenders to alternative assets funds. The group specializes in the valuation of illiquid debt, equity and derivative securities. Additionally, they provide independent fairness, solvency and other transaction opinions for a variety of corporate transactions for both public and private companies.

The firm's Valuations & Opinions Group is widely recognized for leveraging Lincoln's "real world" transaction experience from its mergers and acquisitions and debt advisory practices to assist its clients in the determination of fair value. Lincoln's highly skilled professionals have extensive experience in determining and supporting fair value measurements for traditional and complex securities.

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